

Name: _____

Data: _____

Rate of Dissolution

Purpose

To determine how temperature affects the rate of dissolution

To determine how surface area affects the rate of dissolution

Hypothesis

Procedure

Part 1- Temperature

1. Add 250mL of water to the 500mL beaker
2. Adjust water temperature according to your station (add ice to make it colder, put on hotplate to make it warmer)
Station 1: ~5 degrees Celsius
Station 2: ~15 degrees Celsius
Station 4: ~25 degrees Celsius
Station 5: ~50 degrees Celsius and 90 degrees Celsius
3. Record the actual temperature of the water before you add the alka-seltzer tab. Leave the thermometer in for about a minute before you read the temperature.
4. Have someone ready with the stop watch in their hand
5. Add the alka-seltzer tab to the water and start the timer as soon as it enters the water
6. Stop the timer once the entire tablet has dissolved
7. Record your time on the board
8. Copy down all results in your table

Part 2 - Surface Area

1. Add 250mL of water to the 500mL beaker
2. Have someone ready with the stop watch in their hand
3. Add the alka-seltzer tab provided to you to the water and start the timer as soon as it enters the water
4. Stop the timer once the entire tablet has dissolved
5. Record your time on the board
6. Copy down all results in your table

Name: _____

Data: _____

Results

Temperature (°C)	Time (seconds)

Surface Area	Time (seconds)
Full	
Broken	
Crushed	
Grinded	

Questions

1. What trend did you see for your temperature versus time graph?
2. Describe this trend using the particle theory.
3. What trend did you see for your surface area versus time graph?
4. Describe this trend using the particle theory.
5. How fast do you think it would take for an alka-seltzer tab to dissolve if the temperature were 150°C?

Conclusions
